Demonstration (ἀπόδειξις) and Its Problems for St. Gregory Palamas: Some Neglected Aristotelian Aspects of St. Gregory Palamas' Philosophy and Theology

Constantinos Athanasopoulos

1. Demonstration in Aristotle: The problems

Perhaps the start of a discussion on the use of demonstration (*ἀπόδειξις*) in philosophy should be with Aristotle's *Posterior Analytics* (*Ἀναλυτικῶν Ὑστέρων*). Relevant discussion one can find also in *Prior Analytics* (*Ἀναλυτικῶν Προτέρων*), *Metaphysics* (*Μετὰ τὰ Φυσικά*), *De generatione animalium* (*Περὶ ζώων γενέσεως*) and in *De Anima* (*Περὶ ψυχῆς*).

In this work (*Posterior Analytics*), Aristotle starts his discussion by stressing that all learning and all teaching comes from knowledge already established, and this includes all sciences (mathematics included). He then attempts to chart a plausible description of how we acquire and how we achieve certainty in our knowledge of the world and in particular its mathematical qualities. Aristotle defines demonstration (*ἀπόδειξις*) as a process through which we acquire new knowledge (*ἐπιστήμη*) starting from things we already know: a) facts, b) meaning (i.e., what something means) or c) both (71b–72b). The first thing that we need to stress is that in demonstration, according to Aristotle, we proceed from things known to us (i.e., demonstration is deduction from what is necessary and known). In this way, these things that are taken as known are necessary and prior to our knowledge (i.e., what Aristotle calls *ἀρχαί*). *Ἀρχαί* are (necessarily) true (*ἀληθῶν*), primary (primitive, *πρώτων*), immediate (*ἀμέσων*, in time, i.e., there is no prior to them, *ἄμεσος* [...] *μὴ ἄλλη προτέρα*), more familiar to us (*γνωριμωτέρων*), prior to the conclusion (they have to be prior not only metaphysically but also according to their nature, i.e., they have to be more general and further from perception) and explanatory to the conclusion (*προτέρων καὶ αἰτίων τοῦ συμπεράσματος*,

i.e., they must give a reason for why they are true via the middle term employed to connect the other two terms; the knowledge of this connective middle term basically is what we usually gain in a demonstration; see 71b19–25). They also relate to universals (73a–74a; 85b24). It is obvious that in such a system there cannot be a demonstrative knowledge of accidentals (things that are perishable or connected via relations that do not hold for all cases; see 74b–75b). It is also evident that in such a system there is an inherent difficulty in knowing whether one *knows* demonstratively or not (this depends on the knowledge one has for the things prior to demonstration and the things that demonstration is based upon: they have to be necessary and not of accidentals and they have to be considered – often without proof – as certain). In the same work (100a3–9), Aristotle claims that through perception we have memory and through many memories we have experience; through many experiences of a single thing, we can derive the universal that is applicable to this thing, and through the universal, the *ἀρχή* that we are going to use in demonstration (or work of art). While Aristotle (in the same work, 99b39–100a2), claims that many animals have this ability (to have perception and memory of things), understanding them and thus experience in the form that can be used in the production of universals (*ὑπόληψιν*) is limited to humans alone. This ability for experience in the form usable in universals is what makes humans able to form *διάκρισις* and draws humans to engage in theory and aesthetics (*De generatione animalium* 781b19–21).

Perhaps we can make more evident what Aristotle is thinking about here, if we use an example of how a biology scientist thinks about an animal. Let us use the example of panthers: suppose we wish to know if a panther (A) is a warm blooded animal (B) via demonstration (and not via catching one and testing its blood, because, for example, it is very difficult to catch one or they are very rare). What we need to do is to find out if panthers are mammals (D). If they are, then we can safely conclude that panthers are warm blooded animals, because we take it as an *ἀρχή* that all mammals are warm blooded animals and this *ἀρχή* provides us a reason to accept (B), once we affirm the connection (D). Note that the connection offered by (D) has to be necessary (in Aristotle's terminology: the middle has to be necessary, see *Posterior Analytics*, 75a13). Otherwise this will not work and demonstration will fail.

Difficulties with this form of reasoning have been discussed from antiquity (and surely were known to both Barlaam of Calabria and St. Gregory Palamas; I will discuss this issue further later on). Aristotle himself tries to deal with some of them in this work and in his *Topics*. The first has to do with the first principles (*ἀρχαί*) themselves. How do we come to know them? Since demonstration cannot show us how we come to know them, we have to accept them otherwise. The second has to do with the necessity of the middle term. In how many or what kind of demonstrations can we be certain that the middle term is necessary? Some may even claim that the necessity

accepted here is impossible, because we do not know all the possible cases in which it is not necessary. How can we establish in this way its necessity? Aristotle believes that any answers to these two worries have to withstand attacks from scepticism, infinitely long explanations and circular reasoning (72b–73a).

Ultimately, Aristotle has to accept some kind of foundationalism, and today this move becomes more and more familiar in epistemology as a possible response to scepticism. But his foundationalism is more of an instrumental kind than a substantive one: Innatism is excluded and, as he has indicated, we do not arrive at *ἀρχαί* via demonstration from other more prior knowledge. Instead, Aristotle believes that we arrive at *ἀρχαί* via mental grasping of something that is evident through the process of *ἐπαγωγή*: we begin from observed individual cases and then through memory and accumulated experience we form (through intuition) the universal, which we will then use as an *ἀρχή*.

This *ἀρχή* for Aristotle can be either some form of propositional knowledge (i.e., raven (x) is black (w), I remember other ravens being black (t), so I conclude that *ravens are black* (y): the last proposition (y) is the *ἀρχή* that I will use for a demonstrative argument later on), or a concept (I recognise a black bird as a *raven*, due to my memory and experience of other such birds that other people called *ravens*). This concept I can then use in definitions, which acquire in Aristotelian epistemology a key role; they are important but not as important as demonstration, and not in the way of Plato's epistemology (for whom definitions caused some major epistemological worries) (*Posterior Analytics* II, 3–10). In Aristotle, *ἐπαγωγή* is the process (similar to contemporary inductive arguments) and *νοῦς* or *direct intuition* (perhaps this is the best translation here) is what goes through this process to arrive at *ἀρχαί* (note that it is not *λόγος* or reasoning), which also for Aristotle is important for *ἐπιστήμη* (99a–100b).

Note in relation to all this that *ἐπαγωγή* can be compared in terms of the intuitive work required in *τέχνη* or a skilled process like that employed by an artist; even though Aristotle himself thinks that the two are different: in *ἐπαγωγή* the problem solver hits upon a solution through sheer intelligence in direct insight and arrives at a universal. While the artist is arriving at a unique work of art that cannot be easily generalised nor can it be asserted as necessary (compare and contrast here Aristotle's *Nicomachean Ethics*, 1141a2–5; *Topics* 155b35–36; *Metaphysics* 1032a20 and 981a1–3; also read Groarke 2009, 335–337).

So, can we ascertain now whether Aristotle has solved the difficulties mentioned above via *ἐπαγωγή* and *νοῦς*? It seems that even though he has improved Plato's epistemology (which relied primarily on definitions) by admitting that demonstration together with definition can produce certain knowledge, he has only partially solved the problems mentioned above: by using an instrumental form of foundationalism and not a substantive one, he still

needs to show how we recognise an *ἀρχή* as necessary in terms of the associated propositional knowledge and also something *necessarily* as falling in this or that concept (I recognise that my terminology here regarding "instrumental foundationalism" is idiosyncratic; but it is not far from relevant applications of similar terminology as in Jollimore 2005). In addition, he needs to answer satisfactorily how it is that we can recognise something as a universal; even though he does believe that direct intuition is most certain, sceptics (even of the ancient variety) often challenge "truths" arrived at in this way (and they have formulated specific arguments from antiquity to attack them). Ultimately he needs to prove that all science (or knowledge) is an enterprise that follows reason: *ἐπιστήμη δ' ἅπασα μετὰ λόγου ἐστίν* (100b10).

For Aristotle, to get clear and precise about demonstration is important, because it is through this that we can achieve a degree of certainty regarding our knowledge (*ἐπιστήμη*) of nature. In the above mentioned passages, Aristotle believes that through demonstration we arrive at *ἐπιστήμη* and he defines this as the knowledge of the cause of a specific event (or being) and of how this cannot be otherwise (71b10 and after), but because *ἐπιστήμη* is examining the universal and not the particular, knowledge of the exact characteristics of something that make it what it is cannot be arrived at through demonstration. For this reason, he claims that we can only know via *ἐπιστήμη* and demonstration (*ἀπόδειξις*) how something is (its Being), but not what its essence is. His reasoning here is complex and one should have in mind the relevant discussion in *Metaphysics* (cf. 995a15–20 and 1027a20).

Aristotle believes that the two (Being or that something exists, *τὶ ἐστίν* vs. its essence, i.e., its main characteristics that make it what it is – *τὸ τί ἦν εἶναι*) are different and demonstration cannot be used to arrive at the essence of something (92b4–20). In *Topics* (101b38), he claims that we can come close to the essence of a thing only through definition (which is discovered and not stipulated, so as to avoid circularity), a move, which even in Socratic terms, is susceptible to a sceptical attack (e.g., how are we certain that this discovery is the correct one?). This may be satisfactory for this *ad hoc* limited investigation, which he has to do in terms of knowledge gained in the natural sciences in the *Posterior Analytics*, and which, there, he finds is closer to mathematics. Aristotle thinks that one can, in this way, use universals drawn from observation of physical phenomena to gain such knowledge (note here that due to the complexity of his thinking in the above mentioned discussion in *Metaphysics*, Aristotle claims that ultimately we cannot be certain about how the world really is, since knowledge of the world as composite of matter and form is impossible, because matter is too unstable for absolute certainty), but he still has to show how his notion of necessity and explanation can be arrived at without an investigation into essences and how we use them to determine necessity and explanation (which we can then use in demonstration).

In terms of our panther example above, this means that we need to know what a panther's essence is prior to establishing what is necessary in terms

of its characteristics (i.e., that a panther is an animal that can take the characterisation of a mammal for example and not the characterisation of a reptile). The *essence* here (in this example) provides the *possible* from which we will determine the *necessary* and this *essence* (*τὸ τί ἦν εἶναι*) can be provided by a definition (which for the sceptics is highly dubious). That mammals are warm blooded (an *ἀρχή* for our purposes) also means that we need to be certain that it is absolutely true; and unless we know all mammals (an impossibility, since we are still discovering new mammals), we cannot be certain about this. So, Aristotle's answers cannot be the perfect remedy for scepticism. Aristotle himself acknowledges this difficulty, when he states: "It is difficult to know whether one knows or not" (76a26). In general, for Aristotle *ἐπιστήμη* is indemonstrable, when it relates to first principles, and he also believes that only eternal relations (that have to do with universals) can be demonstrated: 71b16, 72a25–b2, 72b17–24, 76a16–21. However, he does define the demonstrative scientific knowledge in 71b9–13 and he does acknowledge that it is the most certain knowledge we can arrive at (he calls this *ἐπίστασθαι ἁπλῶς* and he distinguishes this from the knowledge gained by the sophists or *κατὰ τὸ συμβεβηκός*). How is this possible? One possible answer may be that Aristotle follows some kind of an internalist or externalist justificationist agenda. But some have claimed that this may not be so (see Aydede 1998).

Now one may ask here: why bother with a theory that admittedly cannot ultimately be immune to sceptical doubt (even though it recognises that it considers total disbelief in scientific knowledge a serious error, see 72b5–10)? Here are some reasons: it may be the case that there are no other more plausible theories; it may be that any epistemological theory that is based only on what we observe cannot be satisfactory due to the transitory nature of what can be observed and the inherent lack in explanatory and predictive power of these observations. Something more theoretical is needed to predict and explain, and Aristotle's theory provides this power of prediction and explanation with less theoretical problems than all other theories on offer at his time. But still it may be that demonstration is good for only some sciences or where it can be applied with different sets of *ἀρχαί* in each science. Aristotle is not against this idea and indeed, in the above mentioned passages, he does accept that each science has its own set of *ἀρχαί* (75b36–76a31). In fact, Aristotle would agree that the way he describes the application of demonstration to produce new certainties from things already taken for certain makes demonstration most suited to mathematics (arithmetic), geometry and astronomy (76a37–76b12). The *ἀρχαί* in these sciences have all the characteristics that Aristotle outlined and connections for Aristotle in these disciplines can indeed take a necessary character. However, even there, one may object, we can have necessary connections (i.e., a connecting middle) that even though necessary, per Aristotelian requirements, may prove irrelevant to the problem to be solved or theory to be proved, see 75a13, 90a35). What do we do in these cases so as to guarantee that we will have new and certain knowl-

edge based on truths that are relevant (producing relevant conclusions)? In addition, in the same work (*Posterior Analytics*) Aristotle maintains that each science has its own first principles, a position that complicates things even further and makes the application of whatever methodological certainties in the mathematical related sciences to other disciplines (such as theology) even more problematic.

2. *Medieval Philosophy: Reception and Understanding of the Problems*

It is by no accident that Medieval philosophers commenting on the *Prior* and *Posterior Analytics* (as reported in the Arabic commentaries, most notably al-Farabi and Averroes and other partially found third hand reports, such as James of Venice's early 12th century translation of commentaries produced by Alexander of Aphrodisias and Philoponus), tried to improve on Aristotle's theory of demonstration so as to find a most exact and demonstrable science and methodology, which would enable them to provide a stipulation fit for theological subjects of investigation (a protagonist in this regard could have been Richard Rufus of Cornwall, philosophical opponent of Roger Bacon and major influence on Duns Scotus; see Wood and Andrews, 1996). Thomas Aquinas, trying to improve on earlier such attempts (primarily Albertus Magnus' and Robert Grosseteste's epistemological theories) ends with his famous position on God being the only being where Essence and Existence (or Being and Essence in Aristotelian terms, see above) are not distinct; this makes God radically different from all created beings, where their essence is logically and metaphysically different from their existence, i.e., their essence allows them to exist in some sense without having real existence, i.e., they are perishable by definition (see *De Ente et De Essentia*, Chapter 4). This for Thomists solves the problem of necessary connections in terms of theology (since now existence of God is a tautology and you cannot get more certain than this) and guarantees (in the eyes of the Thomists) that demonstration in theology produces the most certain knowledge about God.

These famous stages in the development of demonstration did not take away anything from its appeal well into the modern age and we have examples of famous modern philosophers who tried to develop further our thinking about demonstration and its applicability in science (even though with rather problematic admissions for Aristotelians). It is worthy to note that Rene Descartes, even though critical of Aristotle, frequently used demonstration to prove his positions on light and more fundamental metaphysical theses (see for relevant examples in his *Letter to Mersene*, 27th May 1638, and in his *Rules for the Improvement of the Understanding*); John Locke thought that demonstration should be applied to moral reasoning; in his *Essay on the Understanding* he insists: "The precise, real essence of the things, moral words stand for, may be perfectly known; and so the congruity or incongruity of the

things themselves be certainly discovered; in which consists perfect knowledge" (Book iii. ch. 11. sect. 16). In his peculiar way of connecting God to moral affairs, one could point to the fact that for Locke both theology and ethics are sciences in which demonstration should be freely applied. Indeed demonstration for these sciences is the most appropriate method of attaining certain knowledge. One could observe similar views in other modern philosophers (for example, Th. Reid, *Essays on the Intellectual Powers*, Essay vii., ch.1).

It is characteristic of the influence and fascination with Aristotle's theory of demonstration in the Middle Ages that most of the important authors in the middle and late periods of this era had something to say in terms of Aristotle's Theory of Demonstration. It is by no accident then, that Barlaam tried to incorporate his knowledge regarding the theory to his standpoints and intuitions in his own critique (which during the early phase of his debates with St. Gregory Palamas had to do with the *filioque*) and then proceeded to the way hesychastic practices developed in the late Byzantine Civilisation. I will now turn to what Sinkewicz and Ierodiakonou write about the nature of the debates on the issue of demonstration with possible replies from Palamas (on the basis of my brief examination of what I take to be Aristotle's theory of demonstration and Palamas' own writings). In this way, I hope Palamas' contribution on the use of demonstration will be more evident and usable for future work in the area.

3. *The debate on Demonstration between Barlaam of Calabria (ca. 1290–1348) and St. Gregory Palamas (1296–1359) according to Sinkewicz and Ierodiakonou*

To understand better the value of Palamas' contribution on the use of demonstration it is useful to examine two negative evaluations of his contribution and possible replies from Palamas. One could safely conclude that overall, the approach of both Sinkewicz and Ierodiakonou towards Palamas' contribution to the debates is a negative one: Sinkewicz thinks that Palamas had a very partial knowledge of the arguments contained in the treatises of Barlaam except one (see Sinkewicz 1982, 238), and also that either Palamas seriously misunderstood Barlaam's arguments or that he misunderstood Aristotle's theory about the use of demonstration (Sinkewicz 1982, 201–2). Ierodiakonou on the other hand claims that "Palamas' reasoning has a number of important flaws which are due to misinterpretation of specific aspects of Aristotle's logical theories" (Ierodiakonou 2004, 233).

It is important to stress that the debates about the use of demonstration in philosophical and theological reasoning took place primarily at the early phase of the discussions between Barlaam and Palamas and were related to

the issue of what kind of reasoning and support to arguments could be admitted in the discussions between the Byzantine Orthodox and the Western Roman-Catholics to resolve the *filioque* issue (the Byzantine Orthodox could not accept this addition to the Creed and the Latin Roman-Catholic side insisted in upholding it). The discussion between the two protagonists started about the *filioque* (both were against it at the early phase, Barlaam changed his position after his departure from the Orthodox Church), proceeded into the area of appropriate methods for the investigation of theological truths (in this, i.e., how they tried to apply it in the realm of theological truths, they differed considerably) and ended with the debates about hesychasm. This aspect of the controversy is important for our purposes, since, at this early phase of the debates, the two protagonists were more concerned with criticising each other on the theoretical basis of their differences than with accusing each other of heresy. In this way, this early phase was more philosophical than the later phase. So, it would be useful for our examination into the philosophy behind the debates, if we examine in brief the claims of Sinkewicz and Ierodiakonou and offer some replies on the basis of our examination of Aristotle's thinking on demonstration and Palamas' use of the Aristotelian problems outlined above.

Sinkewicz justifies his claim about Palamas' poor knowledge of Barlaam's arguments by citing chronological evidence that points to the fact that only one of the *Antilatin Treatises* (AL5) was delivered to him on Mount Athos while all other treatises were reported to him through mutual friends and acquaintances. But even if we take Sinkewicz' chronological evidence at face value (and I have my reservations about this), he still needs to prove that indeed Palamas did not have in his command the main arguments presented in Barlaam's other works. Taking into consideration that the people who took the responsibility to be the messengers were friends with both Palamas and Barlaam and people who not only were intelligent and had full knowledge of the relevant arguments in the debates but also were never accused of reporting falsely the arguments employed, the importance for such a proof becomes even greater. From Sinkewicz's detailed discussion it is not conclusive that Palamas misunderstood, nor that he tried to misinterpret Barlaam. Their difference of opinion was real and understood by both. Both were against the *filioque* and the way the Latin Roman-Catholics tried to prove it; their difference of opinion concerned the use of demonstration in attaining certainty in science and philosophy and in particular in proving theological truths. Barlaam used demonstration in a strictly logical sense and tried to incorporate most of the Aristotelian intuitions contained in the Aristotelian logical works exclusively. Palamas showed a far greater understanding of the Aristotelian corpus and argued for a more liberal understanding of demonstration trying to overcome the inherent problems in Aristotelian logic.

I have argued elsewhere that the educated Byzantine philosopher of the time had a more complete command of the Aristotelian corpus than his west-

ern medieval colleagues and was able to compare and contrast the problems and the solutions proposed by Aristotle in his various logical, rhetorical and poetic works with great liberty and ease (Athanasopoulos 2010). In addition, the Byzantine scholar of the time had at his command more than thousand years of detailed commentaries and thus had a more rounded understanding of the relevant problems. I also argued in my previous work that, even when one considers the Aristotelian corpus itself, some of the most important logical and metaphysical Aristotelian problems found their solution in the rhetorical and poetic works of Aristotle. In this way, whoever had a fuller command of the Aristotelian corpus and its commentaries was not only more able to solve the problems inherent in some Aristotelian works, but also was able to use more liberally relevant Aristotelian terms and possible non-Aristotelian (but related to Aristotelian) terms that could be useful in the debates at hand.

It is doubtful that Barlaam had such a liberty and ease of reference and thus a command on Aristotelian intuitions so as to solve effectively the problems found in Aristotle's logical works. Even though we have a detailed record on the Byzantine Aristotelian scholar who was the teacher of Palamas, Theodoros Metochites (1290–1332), a famous Byzantine commentator on key Aristotelian and other ancient Greek mathematical and logical works, no such records exist for the teachers of Barlaam. It is important to note that Theodoros Metochites most probably imparted to Palamas some of his deep knowledge of the Aristotelian corpus as well as a more general knowledge of logical and mathematical problems and solutions (Ševčenko 1962; Bydén 2003). A characteristic of the legacy of this teacher (Theodoros Metochites) was his other famous student Nikephoros Gregoras (1295–1360), who became a famous Byzantine philosopher, mathematician and astronomer (among his many discoveries was the Gregorian Calendar, more than 200 years before its adoption by the West via Pope Gregory XIII); Gregoras also participated later in the debates (as a philosophical and theological opponent to Palamas). The influence of Theodoros Metochites on St. Gregory Palamas is still a largely unexplored area. What I would like to stress here is that most of Palamas' insistence on the ethical preparation for true illumination and his strong belief in upholding the true dogma of the Orthodox Church as a necessary condition for a true philosophical standpoint and as a plausible reply to the epistemological stalemate of scepticism on metaphysical truths was the result of the strong intellectual influence he received from his teacher (see Metochites 2002).

Proceeding further into Sinkewicz's argument in support of his claim that Palamas misinterprets Barlaam, it would be useful to consider his claim that Palamas considers Barlaam's views on the use of dialectic in the search for truths in an "absolute" sense, while Barlaam's intention was to use this in a more limited and relative sense (Sinkewicz 1982, 198). His argument here is that Barlaam's point about using dialectic as a useful tool to win arguments

was not related to Palamas' more specific interest in searching and finding truth in theological matters. However, this attempt to vindicate Barlaam is rather suspicious, since, if one is to allow this kind of use of dialectic into all searches of truth (as is implied by Barlaam), he indirectly allows its application for theological truths as well (unless he explicitly excludes theological truths from any application of dialectic, which he is not explicitly admitting). Barlaam's rather vague remark about the use of dialectic in arguments, as Palamas is eager to note repeatedly, allows scepticism to creep into a realm where doubt should not be allowed. From Palamas' viewpoint an outright condemnation of dialectic would be the most certain way to exclude it from any consideration in the investigation of theological truths. This would be not only true to Palamas' insistence that theological truths need to be filled with certainty, but would also be true to the Aristotelian way of thinking about certainty in the epistemology of mathematical truths (which for Aristotle should be without any doubt, as we observed above in relation to his theory of demonstration).

Sinkewicz however, not only doubts Palamas' knowledge of Barlaam's arguments but proceeds into challenging Palamas' knowledge of Aristotelian logic as well. His key criticisms are related to a poor application of Aristotelian terminology and Palamas' poor understanding of the Aristotelian use of demonstration regarding unique realities (*μοναδικά*). In his first *Letter to Akindynos* (par. 9), Palamas puts forward the view that demonstration applied to specific unique realities such as God (which is a most certain reality), is a plausible Aristotelian move, because Aristotle rejected the use of demonstration in particulars on the ground that they have an uncertain character. Sinkewicz here (ibid, 198–199) is too eager to dismiss Palamas' admission as opposing or misinterpreting Aristotelian logic, without taking into full account Palamas' insistence that this unique reality (God) even though one (and thus to be considered as a particular in Aristotelian terminology) is more certain in its characteristics than any universal and thus, it should be admitted as an area for the application of demonstrative science. This is not only a correct application of Aristotelian logic in an area that was not existent nor possible at the time of Aristotle, but also was supported as a theological move by the many references in Church Fathers' writings that demonstration (*ἀπόδειξις*) should be used in the investigation of theological matters. One could find other areas in Sinkewicz's contribution where Sinkewicz seems too eager to support Barlaam and criticise Palamas, but here I will limit my critical discussion to the above mentioned points, which I consider most characteristic in his overall approach.

Ierodiakonou on the other hand makes some hasty critical statements about Palamas' arguments to conclude in the rather negative remarks mentioned above. She discusses three main areas where she finds that Palamas falls short regarding the dictates of a correct application of Aristotelian theory. She starts with Palamas' insistence that impression (*φαντασία*) cannot be

involved in our investigations and syllogisms about God. She criticises Palamas here because, according to her, such an assertion cannot be admitted in the Aristotelian framework, due to the fact that Aristotle maintains in *De Anima* that all our thoughts, whatever they may be, are dependent on impressions (Ierodiakonou 2004, 234). Here, Ierodiakonou obviously conflates the Aristotelian conception about god with the Christian conception of God (such as the one found, for example, in the Areopagetic corpus). The two conceptions are radically different. The Aristotelian god is one with the world (in a metaphysical sense), while the Christian (in the Areopagetic tradition, which Palamas follows) is radically different (in a metaphysical-ontological sense). If Ierodiakonou was to apply the principle of charity in her Palamite reading, she would fully acknowledge the apophaticism inherent in the Palamite conception of God and would not find Palamas' claim about the complete lack of any impression in relation to God objectionable. She would also recognise not only that *De Anima* has some rather peculiar theses about impression (not found in other works) but also that the Aristotelian conception of god is not without theoretical problems itself (according to important commentators, Aristotle in *Metaphysics* 1074b did not have a conception of god as an agent of change in the world and indeed it was not a god in the traditional sense, but was only an appropriate theoretical device to close a theoretical gap in his system; see Elders 1972; Frede and Charles 2000). Further on, even when one considers the issue of whether the thought of god is dependent on an impression in the Aristotelian system, the Aristotelian god as an unmoved mover, eternal, unchanging and fully actual, without any knowledge of the external world nor a desire to acquire such a knowledge, engaged in self-contemplative thought (*νόησις νοήσεως*) is beyond any impression we can have about any other being in our world. So, from the above examination, we can easily see that, even in Aristotle's system, our thought of god is without any impression and this is exactly what Palamas wishes to maintain. So, it seems that Ierodiakonou here is too readily embracing her intuitions about the use of impressions in *De Anima* to properly engage in a plausible reading of Aristotle in terms of what Aristotle says about god and the impression we can or cannot have of it.

Her further logical intuitions about the use of universals in syllogisms and her conclusion that Palamas is misinterpreting Aristotle, when he claims that induction is necessary to find all the particulars that can be classified under one universal, seems also a too eager condemnation of Palamas, because her cited passages from *Posterior Analytics* (A31 88a11–17; B2 90a28–30), concern finding the particulars that relate to the cause and thus, connect the cause to the universal. However, again, if she was to apply the principle of charity in her evaluation of Palamas' arguments, she would find that Palamas' discussion in these arguments had to do with how we can achieve certainty with universals and Palamas just notes that in order to find the particulars which relate to the universal under which they are classified, in

terms of causality, we need induction. Actually, Palamas here follows Aristotle and takes his reasoning a step further, because, as we saw above in the case of both *Posterior Analytics* and *De generatione animalium*, Aristotle accepts this: humans depend on memory regarding the instances of the particulars they have encountered to form the concept of the universal which they will use in demonstration and that this process resembles the inductive method. Aristotle actually follows a similar line of thought in *Prior Analytics* (II.23 and 14), where he mentions a syllogism that springs from induction (*ὁ ἐξ ἐπαγωγῆς συλλογισμός*) and he notes that this is not conclusive. Govier (in Govier 1987, 50–52) makes a similar point referring to the ancient commentaries on this point. Further evidence in support of this interpretation of Aristotle is provided in *Posterior Analytics* (II.16–17.98b32ff, 99a24ff), where Aristotle claims that the scientist must use first induction for the establishment of an ostensible definition to explain a thing's nature and then he must use demonstration to establish the effects of that nature to its species. Certainty is achieved only after the successful application of demonstration and not before this. In this way, I hope I have shown in some detail that Ierodaikonou's condemnation of Palamas as misinterpreting Aristotle both on the issue of impressionless god and on the issue of the use of universals and induction, are totally unfounded and without any support, if one wishes to adopt the principle of charity in terms of Palamas' arguments and a possible plausible reading of Aristotle when applied to the Christian (Areopagetic) concept of God.

Conclusions

From the above discussion, it can be concluded that Saint Gregory Palamas not only understood Barlaam's arguments and philosophical moves but he also identified key problems in Barlaam's thinking. Through a cursory discussion of some important problems on the application of demonstration in Aristotelian logical theory, we also found that recent claims that Palamas did not understand the nature of these problems in Aristotelian logic are not a charitable reading of Palamas' arguments and thus fall as too hasty and poorly supported by the available evidence. I hope in a future work, I will be able to present a more substantial analysis of the logic inherent in Palamas' arguments especially in terms of his development of earlier logical methods found in his teacher (Theodoros Metochites) and other important earlier commentators on the Aristotelian corpus.

Bibliography

Athanasopoulos, C., "Ousia in Aristotle's Categories," *Logique et Analyse* 53 (210) June (2010) 211–243.

Aydede, M., "Aristotle on episteme and nous: The Posterior Analytics," *Southern Journal of Philosophy* 36, 1 (1998) 15–46.

Bydén, B., *Theodore Methochites' Stoicheiosis Astronomike and the Study of Natural Philosophy and Mathematics in Early Palaiologan Byzantium*, Acta Universitatis Gothoburgensis 2003.

Elders, L., *Aristotle's Theology: A Commentary on Book [lambda] of the Metaphysics*, Assen: Van Gorcum 1972.

Frede, M., Charles, D., ed., *Aristotle's Metaphysics Lambda*, Oxford: Oxford University Press 2000.

Groarke, L., *An Aristotelian Account of Induction: Creating Something from Nothing*, McGill-Queen's Press, MQUP 2009.

Govier, T., *Problems in Argument Analysis and Evaluation*, Providence, R.I.: Floris 1987.

Ierodiakonou, K., "The Anti-Logical Movement in the Fourteenth Century," in: K. Ierodiakonou, ed., *Byzantine Philosophy and its Ancient Sources*, Oxford: Clarendon Press 2002, 219–235.

Jollimore, T., "Why is Instrumental Rationality Rational?," *Canadian Journal of Philosophy* 35, 2 (2005) 289–308.

Metochites, Th., *Ethikos - Peri Paideias*, critical edition by I. Polemis, Athens: Kanaki Publications 2002.

Sinkewicz, R. E., "The Doctrine of the Knowledge of God in the Early Writings of Barlaam the Calabrian," *Medieval Studies* 44 (1982) 181–242.

Ševčenko I., *Études sur la polémique entre Théodore Métochite et Niképhore Choumnos*, Bruxelles 1962.

Wood, R., Andrews, R., "Causality and Demonstration: An Early Scholastic 'Posterior Analytics,'" *The Monist* 79, 3 (1996) 325–356.